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OPINION

Help for editors: EASE makes things easier

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Introduction

Editing is preparing another person's work for publication either as a book—or as part of a book—or in a newspaper or other periodical, radio, news, etc. Editing can also mean planning and directing the publication of a newspaper, magazine, journal, book. The meaning of this word goes even beyond the world of printing; so, editing can also be preparing a cinematic film or an audio tape by putting together parts in a suitable sequence. Nowadays, editing tasks also cover electronic media. In Spanish-speaking countries, it may be confusing to talk about "editors" with English people. In fact, the Spanish word "editor" means what in English is called "publisher." Besides, in Spanish, a publishing firm is called an "editorial," and the editor of a journal or a newspaper is called the "director." Now, however, there is a tendency to make these words polysemous and include also the English meaning. So, currently there are newspapers that, besides having a "director," have also an editor. In such a case, the director is the manager of the newspaper (or whatever the medium), in its commercial aspects, whereas the editor is the person responsible for its contents.

Science editing is a special field of the editorial world, covering the whole process from the time an article or book is written until it is published, regardless of the medium chosen to disseminate it. Several kinds of editors intervene in this process: (a) an author's editor, who corrects the original text —called the "manuscript"—, basically by improving the language, but in some cases also scientific aspects; (b) a journal editor, who plans and directs the publication of a journal (book editors have similar tasks, but usually they do them on the occasion of a book's publication, not regularly); (c) a managing editor, who is in charge of commercial aspects.

Any scientist aims to disseminate his or her findings to a wide audience, and to have them published in top-ranking scientific journals. To achieve this goal, it is necessary to write the result of one's research in English. In fact, at the threshold of the 21st century, English has become the *lingua franca* of science. This is an objective fact, and people whose first language is not English must accept this. Of course, when it comes to writing for publication, the non-native speaker of English (NNS) is handicapped compared to scientists who are native speakers of English (NS). Accordingly, every effort must be made to find ways to overcome such a handicap. Scientific English should be incorporated as a compulsory subject in all universities so that newly-graduated students are able to write a paper in accordance with usual rules established by scientific publications and with an acceptable standard of language. In Spain, however, as in many other countries, until very recently foreign language teaching/learning has basically been associated with secondary education, especialized language schools or faculties of philology. Unfortunately, in tertiary education, where the mastery of foreign languages is becoming a necessity and not a luxury, formal instruction stops [2].

Bernard D. Davis, Adele Lehman Professor at Harvard Medical School, who died in 1994 and had been a pioneer leader in the field of microbial physiology and genetics, was interested also in ethical, political and social aspects of science. A few years before his death he became interested in the "Baltimore Affair" [3] and started writing a book on the case. The journal *Microbiology and Molecular Biology Reviews* adapted a chapter of Davis' unfinished book and published it as a Commentary in the March 2000 issue [1]. A section of Davis' article is devoted to scientific writing:

> "A scientific paper is an unusual art form. It has to be as compact as possible, while giving the reader all the information needed to repeat the experiments. Because the literature is vast, the format of a paper is standardized so the reader can quickly find the parts that interest him […]
>
> Writing a scientific paper well is difficult, though the problems are different from those of *belles lettres*. It is a challenge to present

the material compactly but without ambiguity and to organize a complex argument coherently. Yet, despite the stereotyped, some intellectual leaders, such as Francis Crick or Jacques Monod, convey an elegant, personal style.

Though professional scientists are by definition professional writers, many do not write well. Several additional factors have lowered the quality of the literature: competition encourages scientists to publish quickly; […] and journals can no longer afford to edit papers for clarity, as was a common earlier practice."

How editors learn to edit

Science editing requires some skills that are usually not learnt at universities. People already immersed in the world of writing for publication and doing research (scientific or journalistic) become editors by entering the profession through the back door, so to speak, and learn on the job. At some time or other in their scientific careers, most researchers must carry out editorial tasks. In some cases the researcher may even be editor-in-chief of a journal in his or her specialty. From time to time—and more and more frequently as the researcher gains experience and recognition—the researcher can be asked to edit a monograph or to be a peer reviewer. Besides, scientific research implies writing and publishing the results of one's research. In fact, to assess a scientist's research work, evaluation committees usually consider the number of articles he or she has published and the journals where those articles were published. So, all researchers should be trained to have a minimum of editorial skills.

The European Association of Science Editors (EASE)

The European Association of Science Editors (EASE) is one of the several international associations that can be tremendous time savers for science editors, especially for those that have not had formal training in the field. According to the program from EASE's Seventh General Assembly and Conference (Tours, France, 21–24 May 2000), "EASE is a non-governmental and not-for-profit organisation operated exclusively for scientific and educational purposes. Membership is open to editors of publications in the sciences; to others with responsibility for editing or managing such publication, or working in any branch of scientific communication; and to individuals representing scientific publications or publishing bodies. Although EASE is European-based, members are welcome wherever they live." Table 1 shows that, in EASE, there is an overwhelming representation of English-speaking countries. Besides, many members from non-English-speaking countries are editors whose first language is English.

EASE is affiliated with the International Union of Biological Sciences (IUBS) and the International Union of Geological Sciences (IUGS), has category A liaison status with the International Organization for Standardization (Technical Committee 46/subcommittee 9) (ISO), and is represented on committees of the British Standards Institution. Through its affiliation with IUBS and IUGS, the Association is also affiliated with the International Council of Scientific Unions (ICSU) and is thereby in formal associate relations with UNESCO. EASE cooperates actively with the Council of Science Editors (formerly the Council of Biology Editors) (CSE) and the Association of Earth Science Editors (AESE) in North America. Its other links include the African Association of Science Editors, the European Medical Writers Association, the Finnish Association of Science Editors, the Society of English-Native-Speaking Editors (Netherlands) (SENSE), and, in the UK, the Association of Learned and Professional Society Publishers (ALPSP) and the Society of Freelance Editors and Proofreaders (SFEP).

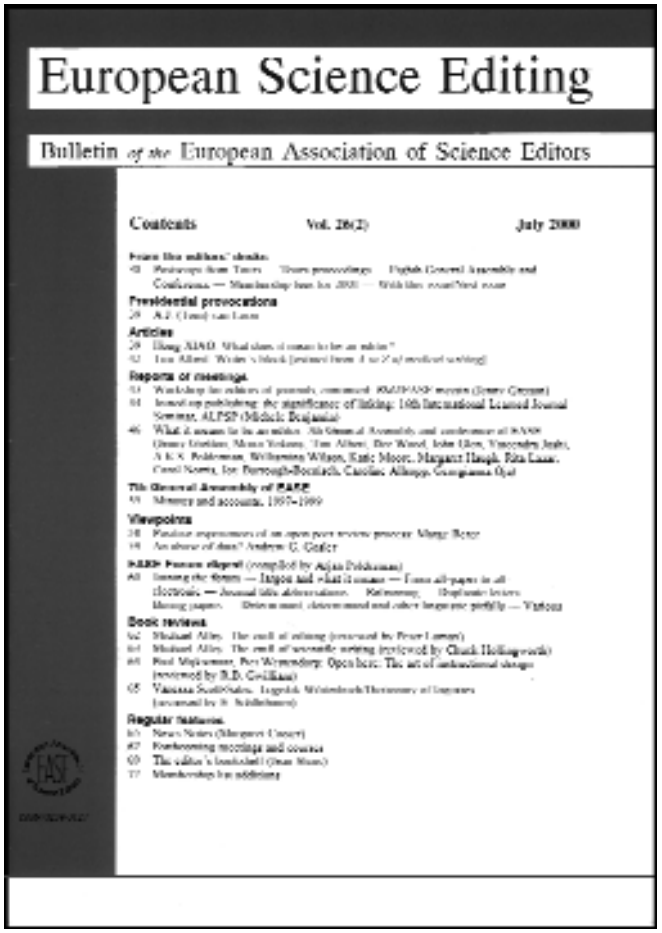
EASE members can find solutions to almost every conceivable problem in editing and publishing by using the various resources kept by the organization. Members receive *European Science Editing* (Fig. 1), the EASE bulletin published three times a year, as well as *The Science Editors' Handbook*, which is being issued in short chapters and is not yet available for wider circulation. *The Science Editors' Handbook*, edited by Pehr H. Enckell (Department of Ecology,

Table 1 EASE membership by countries[a]

Country	Members
United Kingdom	314
Netherlands	100
Sweden	52
USA	51
France	48
Finland	38
Australia, Spain, Switzerland[b]	30
P. R. China	24
Norway	23
Germany	21
Bahrain	17
Denmark	17
Hungary	16
Croatia	12
Italy, Japan	11
Belgium, Russia	9
Canada	8
New Zealand, Poland	7
Kenya, Nigeria	6
Austria, India	5
Mexico, Romania, Singapore	4
Czech Republic, Estonia	3
Côte d'Ivoire, Greece, Ireland, Israel, Portugal	2
Brazil, Egypt, Indonesia, Jamaica, Korea Malaysia, Mauritius, New Caledonia Philippines, Saudi Arabia, Slovenia, South Africa, Ukraine, United Arab Emirates, Yugoslavia	1

[a]Data from EASE Directory 2000.
[b]In the case of an entry with more than one country, the figure corresponds to each country's membership.

University of Lund, Sweden) is intended to have four main subdivisions: (a) publishing and printing, (b) editing, (c) standards and style, and (d) nomenclature and terminology. EASE also has a web site (www.ease.org.uk) and a listserv (open also to non-members), which is run from the University of Turku, Finland.


European Science Editing

Bulletin of the European Association of Science Editors

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Fig. 1. Cover of a recent issue of *European Science Editing*, the EASE bulletin.

EASE triennial conferences are also a most suitable framework for discussing topics related with any aspect of science editing. As above mentioned, the EASE Seventh General Assembly and Conference, titled *What it means to be an editor*, was held in Tours, France. (Earlier conferences were held in Oslo, 1985; Basel, 1988; Oxford, 1991; Budapest, 1994; and Helsinki, 1997; the next conference will be held in Bath in 2003.) As usual in such conferences, the fields most represented at the Tours conference were the life sciences and earth sciences. This is because EASE was born in 1982 out of the union of two former organizations: the European Life Sciences Editors' Association (ELSE) and the European Association of Earth Science Editors (Editerra). However, participants from environmental studies, psychology, medicine and other fields were present in Tours as well. There were journal editors, editors working for publishers, and authors' editors. The entire breakdown of editing positions was represented: from editors-in-chief and managing editors to copy editors, statistical editors, and members of editorial boards. Besides editors, there were publishers, authors, peer reviewers (referees), indexers, software and web experts, translators, language researchers, and teachers. Some people from non-English-speaking countries were native speakers of English and some from English-speaking countries were non-native speakers. Thirty-three countries were represented at the EASE 2000 conference (Table 2).

Table 2 Countries represented at the EASE 2000 conference

Country	Participants
United Kingdom	64
France	26
Netherlands	19
Finland, USA[a]	16
Spain	11
Italy, Switzerland	8
Norway	7
Canada, Denmark, Sweden	6
Australia	4
Croatia, Germany	3
Estonia, Israel, Mexico, Poland	2
Bahrain, Czech Republic, Hungary, India, Ireland, Japan, New Zealand, P. R. China, Portugal, Romania, Saudi Arabia, Slovenia, South Africa, Ukraine	1

[a]In the case of an entry with more than one country, the figure corresponds to the number of participants for each country

Areas covered at the EASE 2000 conference

As a result of this conference, debate on the essence and implications of policies will undoubtedly lead to long-term improvements in the communication of learned and scientific information. Yet most participants also went away with an office problem solved for the following day and valuable contacts for the future. Table 3 shows the topics dealt with at the EASE 2000 conference. We comment on several of them here.

Impact Factors The long shadow of the impact factor cast itself over the entire three days of the conference. There were double-length workshops on the first two days dealing with impact factors in the medical, biological, and physical sciences. These were followed by a summary plenary session that all participants attended on the last day. Included on the panels for these sessions were two people for the Institute for Scientific Information (ISI) in Philadelphia. Panellists explained how

Table 3 Topics dealt with at the EASE 2000 conference

- A journal's website: what should be on it?
- Alternatives to authorship
- Can editors do research?
- Certification for editors
- Choosing or changing your publisher
- Copyright
- Editing on screen, on paper or both
- Editors and market forces
- Electronic records: how permanent is 'permanent'?
- Funding sources and publication policies
- Impact factors in the medical, biological and physical sciences
- Indexing
- Journal design
- Journal editors as science journalists
- Measuring reader satisfaction
- Methods and systems for manuscript tracking
- Peer review in the electronic age
- Professional training for editors
- Publishers: responsibilities to authors and relations with editors
- Publishing in the less advantaged countries
- Refereeing the English-as-a-second-language paper
- Respecting persons and identities
- Revitalizing a journal
- Running an editorial office, including care of freelancers
- Statistical refereeing
- Structured abstracts
- Teaching young researchers to write
- Technical innovations
- The difficult and disappointed author
- The wholly electronic journal
- Towards a peer-reviewer's code of practice
- Translators as 'editors'
- Value of authors' editors
- What constitutes authorship?

impact factors are calculated, how they should be interpreted, and what their uses and abuses are. In some countries misguided policies for funding, remuneration, or promotion are almost entirely based on whether or not a scientist had published in a high-impact journal.

Authors Four moderated panel discussions dealt with the authors' roles in publishing. Panellists and audience debated the concepts of traditional authorship of collaborative work, which some considered fatally flawed. This involved discussing who should be considered an author. Another session, "Copyright," addressed the growing concern among authors as to what they cannot do with their own work if they assign copyright to someone else. For example, they cannot send electronic prints of articles from their own web sites. Publishers are now writing more simplified agreements to combat misunderstandings.

Editors The workshop "Professional training available for editors" was designed to aid participants in analyzing their training needs. The session "Revitalising a journal" showed that, generally, bad and good editing were the key factors in the demise or comeback of a journal. "The role and duties of an editorial board" was a revelation as to the variety in structures, membership criteria, and responsibilities. Admission to board membership relies on both scientific soundness and institutional recognition, but there is no official job description. Peer reviewers may be promoted to board membership, but some reviewers in the audience felt they were putting in more work than board members, with little or no compensation, which comes in the form of honoraria, free subscriptions, or vouchers. Regretfully, editorial boards do not officially include managing editors, on whose knowledge and experience editors often rely. Boards are there to review, arbitrate, solicit, and develop policy. Their role in ethical issues was emphasized.

Editorial freedom was debated in "Editors and market forces." Unlike newspapers and magazines, learned journals have traditionally avoided changes of editor, but now appointments are often for fairly short periods. The editorial world was shocked in 1999 by the dismissal of two long-serving editors of successful journals. The origins of these disputes were different but both relate to editorial independence. Can editorial freedom be protected? If so, what are the reasonable limits to that freedom? The session "Can editors do research?" addressed the question of whether a professional editor can be turned into a skilled researcher in, for example, peer reviewing. Everyone seemed to agree that editors should do research in "journalology," but not everyone agreed on what they should research or how they should set about it. There was consensus that an interdisciplinary approach is required. But is the concept "interdisciplinary" limited to just all kinds of editors for all types of learned and scientific journals or should it involve the whole gamut of players from authors to readers as well?

Several sessions concentrated on the more nuts and bolts aspects of editing. "Running an editorial office, including care of freelancers" was composed of case studies on how a Danish, a Scottish, and an American international journal were managed. Video conferencing, on-screen editing, e-mail, the Web, computer-based manuscript tracking were discussed as different strategies for facilitating managing. "The difficult and disappointed author" centred on authors' complaints. For example, authors often say that their manuscripts are inadequately handled and edited by scientists temporarily acting as editors. An inventory of authors' complaints was made along with proposals for ways to handle them and procedures to prevent them. Some authors were characterized as tending to discount valuable guidance from the author's editor concerning not only language but also the target journal, journal style, list of authors, and salami submissions (up to outright fraud!). In "Journal editors and science journalists," panellists and participants observed that scientists and journalists often have different views on ways of informing the public of scientific developments. The lay press is the medium where misinterpretation is a risk. What is the role of the journal editor in this respect? One proposal was for author-approved news releases for the popular press.

"Value of authors' editors." dealt with editors working directly with scientists who are preparing manuscripts. Whether working freelance, for an academic centre, or for a private

company, such an editor provides a wide range of services from ensuring that a manuscript complies with a target journal's instructions to helping the author make substantive revision of text before or after peer review. "Translators as editors" dealt with the changing role of the translator, who may, with some training and experience, aid the author by responding critically to the content and organization of the text, thus becoming a surrogate authors' editor as well as a translator. And, along quite a different line, "Indexing" dealt with issues such as how quality indexing can increase the value of a journal. Do search engines make a professional indexer obsolete? How helpful are authors' key words? What are the pitfalls involved in several years' cumulation to the same journal? What is the most useful format for an index?

Peer reviewers The session "Peer review in the electronic age" was introduced with the following words: Peer review is at the core of scientific publishing. It is the editor's barometer for scientific originality, accuracy, relevance and quality. In the pre-EP (Electronic Publishing) age it was often slow, expensive and biased. The EP age has the potential to transform peer review. This potential revolution is only limited by the conservatism of editors and authors. "Statistical refereeing" illustrated why statistical editing is so important and also debated ways of making the editing process more efficient. One astounding piece of information was provided by a representative from one group of journals who said that their statistical referees find that 50% of statistics, figures, graphs, etc. are erroneous. One paper illustrated an alternative to the traditional peer review. The alternative was an evidence-based system to grade the quality of health-related information (*Cochrane Reviews*). In "Refereeing the English-as-a-second-language paper" panellists proposed that part of the suitability criteria for referees should be willingness to referee papers that are very difficult to read, being written by NNS, in which the problem is not with the science or the journal style but with the language. "Towards a peer-reviewer's code of practice" covered many problems, both practical and ethical, encountered in review work. The debate was inspired by questions based on EASE's "Guidelines on Good Refereeing Practice" from *The Science Editors' Handbook*.

Publishers The session "Publishers: responsibilities to authors and relation with editors" started from the axiom that publishers need authors and authors need publishers. This symbiotic relationship should be simple: what is good for one is good for the other. There was by no means consensus, though, that it is the editors who take responsibility for content in the name of the publisher. What could be done to redress the imbalance in influence and give the interests of authors and editors a more deserving place in the publication process? "Funding sources and publication policies" brought together a panel of representatives from the major entities in publication, who presented their publication policies. However, the situation is changing and all entities recognised the need for, and benefits from, having a written publication policy. A contrasting issue discussed was the ethics of authors being pressured to make compromises in order to comply with policies of funding sources and publishers. Must the concept of intellectual freedom conflict with that of intellectual property? The session "Journal design" addressed questions such as why journals look the way they do. What are the implications of page size and font for readers, printers, or librarians? Results of journals redesigned in the 1990s were considered. Other topics were cover design, advertisements and the use or abuse of colour. Finally, "Publishing in less advantaged countries" centred on ways to improve and assist publishing in the less advantaged countries where weaknesses affect all areas of publishing–author pool, review process, finances, language, and visibility.

Electronic publishing (EP) "The wholly electronic journal" was a session with more participants than seats. The panel addressed questions such as how to set up and establish an all-electronic journal. Why go online and what are the criteria for success? Since all parties involved will be dealing with a rather complex set of technological and non-technological factors, it is necessary to think through the entire publication process, create a clear business plan, and start modestly. Many questions were raised about technical issues, quality assessment, archiving, and the long-term viability of e-only journals. "Electronic records: how permanent is 'permanent'?" covered a number of questions: What should be on a journal's web site? How can information be accessed once it has been taken off the web site? Who will archive the electronic journal and what medium should be used to do this: paper or disk? What format will be used? The session "Technical innovation" included a dedicated writing tool (template) to assist authors, the manuscript tracking tool in Word, electronic editing techniques such as macros available in Word Perfect or Word, on-line peer review, speech recognition programs (i.e., for translating or initial drafting), and ways to send mammoth texts.

Language One session, "Teaching young researchers to write," dealt with various facets of this broad area. 1) Since English is the language of the international scientific community, various "accents" (NS and NNS) in scientific writing are not only natural but even pleasing. However, some cross-cultural interference does call for attention, especially in the use of hedging devices and verb tenses: the results section should be in the past tense, not the present, because the results are not yet accepted as axiomatic by the scientific community. Hedging devices (could, might, perhaps) do not belong in the results section either. After all, a result was found. These devices belong in the discussion section and the introduction. 2) Several authors and editors who are also teachers presented their experience as case studies. Topics ranged from the simple breaking of taboos (taboos such as "never write *I*" or "long and complex sentences sound more intelligent") to the more

complex aspect of accompanying young writers through the arduous process of multiple drafting. Discussion turned to the role of the public authorities in providing training for postgraduates, and participants emphasized writing skills at secondary education and university undergraduate levels. In general, editors expressed both in informal conversations and in presentations that what they were looking for was more than just good content and good writing. They were looking for interesting, persuasive, revealing writing, which presented a compelling new perspective to the reader.

Readers There was one session devoted exclusively to the reader: "Measuring reader satisfaction." Questions addressed were: How much of journal development can be entrusted to readers? How and when should they be consulted? Do readers who comment spontaneously, respond to surveys, and join focus groups represent readers in general? Can we increase the extent and quality of reader participation and, most importantly, improve their satisfaction?

Reflections

The authors, after consulting some EASE members, feel supported in their opinion that EASE has not taken advantage of all its potential. On one hand, it should—and surely will—work closely with organisations such as The Council of Science Editors (CSE), in the United States. In fact, the same problems and solutions are being discussed on both sides of the Atlantic. Another pending issue is the need for more young editors among the EASE membership (especially editors of learned journals, despite all the pressure they bear due to academic responsibilities); and editors from non-English-speaking countries, such as Latin America, Germany, and Eastern Europe including Russia.

Past EASE president David Sharp has stated that EASE has never attempted to represent European science officially. Yet, he believes it must expand, not only to southern Europe, but also to Latin America. Through Spain and Portugal, EASE might have or seek an influence in Latin America. "The editorial problems are almost countless," has stated current EASE president Tom van Loon, and "there is now a tremendous knowledge of how to tackle such problems. All editors—not only full-time professionals, but also scientists—should be aware of the useful techniques and technologies." Editors of learned journals, who usually have not been trained for that job, do not have to reinvent the wheel all the time. EASE can save them time and provide them with the cutting edge.

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